

What is claimed is:

1. Test system for testing a plurality of heat pumps, comprising:

an array of testing stations, wherein each of said testing stations includes at least one heating element for attachment to a first component of a heat pump and wherein each of said testing stations includes at least one sensor for connecting to a heat pump;

a plurality of data acquisition lines each of said plurality of data acquisition lines connected to a separate sensor for each testing station;

a plurality of control lines each of said plurality of control lines connected to a second component of separate heat pumps; and

a control device which receives test data through said data acquisition lines and transmits control data over said control lines.

2. The test system of claim 1 wherein said first component of said heat pumps is an evaporator coil and said second component of said heat pumps is a compressor.

3. The test system of claim 2 wherein said sensors are temperature sensors which are connected to said evaporator.

4. The test system of claim 3 further comprising a second plurality of control lines each of said plurality of control lines connected to a valve of separate heat pumps.

5. The test system of claim 4 further comprising a second plurality of data acquisition

lines each of said plurality of data acquisition lines connected to a separate second temperature sensor for each testing station.

6. The test system of claim 5 wherein said control device is an automated testing
5 protocol running on a computer system.

7. The test system of claim 6 wherein said automated testing protocol contains comparative pass/fail criteria.

10 8. Test system for testing a plurality of heat pumps, comprising:
an array of testing stations, wherein each of said testing stations includes at least one heating means which can be attached to a first component of a heat pump for providing a heat load to said heat pump and wherein each of said testing stations includes at least one sensor means which can be couple to a heat pump to generate test data;
15 a plurality of data acquisition connection means each of said plurality of data acquisition connection means connected to a separate sensor means for each testing station;
a plurality of control connection means each of said plurality of control connection means connected to a second component of separate heat pumps; and
a control means which receives test data through said data acquisition connection
20 means and transmits control data over said control lines.

9. The test system of claim 8 wherein said first component of said heat pumps is an evaporator coil and said second component of said heat pumps is a compressor.

10. The test system of claim 9 further comprising a second plurality of control connection means each of said plurality of control connection means connected to a valve means of separate heat pumps.

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11. The test system of claim 4 further comprising a second plurality of data acquisition lines each of said plurality of data acquisition lines connected to a separate second temperature sensor for each testing station.

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12. The test system of claim 11 wherein said control means is an automated testing protocol running on a computer system.

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13. A method of testing a plurality of heat pumps, simultaneously comprising the steps of:
providing a first control signal to a first component of a plurality of heat pumps to
operate a function of said heat pumps;
providing a second control signal to a plurality of heating element, said heating
elements placing a heat load on said heat pumps;
receiving data from a plurality of sensors coupled to said heat pumps; and
comparing said received data to accepted performance parameters for said heat
pumps.

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14. The method of claim 13 wherein said first and second control signals are generated by an automated testing protocol running on a computer system.

15. The method of claim 14 wherein said first component of said heat pumps is a compressor.

5 16. The method of claim 15 further comprising the step of providing a third control signal to a plurality of valves of said heat pumps.

17. The method of claim 16 wherein said sensors are temperature sensors coupled to the evaporator of said heat pumps.

10 18. The method of claim 17 further comprising the step of receiving data from a plurality of second temperature sensors separately coupled to said evaporators of said heat pumps.

15 19. The method of claim 18 further comprising the step of providing a plurality of fourth control signals to a plurality of auxiliary heating elements, said plurality of auxiliary heating elements placing a heat load on said heat pumps.

20. The method of claim 13 further comprising the step of printing a report of the results of the comparing step.

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